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Australia
1927

**Valuable Winter and Spring
Pasture**

Wimmera Ryegrass

AND

Subterranean Clover

The most valuable feature of the Wimmera Ryegrass/Subterranean Clover association is its adaptability to climatic conditions. This mixture may be grown in nearly every part of this State, providing the question of soil fertility in comparison to the annual rainfall is carefully studied. Where the rainfall is light, as in the Wimmera or Mallee, soil of high fertility is essential, but in districts such as Gippsland, with a relatively heavy rainfall, the Wimmera Ryegrass/Subterranean Clover mixture will give thoroughly successful results on second class and even poor country, providing top-dressing is practiced.



Wimmera Ryegrass growing and establishing itself in Saltbush Country.

FEATURES OF THE MIXTURE OF SUBTERRANEAN CLOVER AND WIMMERA RYEGRASS.

1. Wide Adaptability to Climatic Conditions.
2. Provides excellent Winter and Spring Pasture.
3. Unaffected by Dry Weather in the Summer.
4. The Mixture provides a Well-balanced Ration.
5. The Ryegrass counteracts the "Clover Taint" in Butter.
6. Thoroughly Permanent when once established if managed judiciously.
7. Valuable for Poor Country unsuitable for Better Class Pastures.

F. H. BRUNNING PTY. LTD.

57 ELIZABETH STREET, MELBOURNE

Wimmera Ryegrass and Subterranean Clover

By Leslie H. Brunning.

The two principal essentials in determining the most productive pasture types for any particular district are **soil moisture conditions** and the **fertility of the land**. The former governs the annual or the perennial nature of the plants composing the pasture while the latter controls the actual species of annual or perennial plants that may be sown and maintained to best advantage from an economic point of view.

Wimmera Ryegrass is in the same relation to Perennial Ryegrass as is Subterranean Clover to White Dutch Clover. **Both are annuals**, depositing their seed at the end of each growing period to perpetuate next season's crop, and both have a distinct "niche" in both high and low rainfall areas, though under the former conditions they should not replace perennial pasture plants on good quality soils. Another point of similarity is that both will thrive and do well on second, and even third class land, where the average annual rainfall is high, but when grown under low rainfall conditions each of them require relatively fertile soil.



Where Pastures are poor and thin, stock have to travel over larger areas, tracks are worn and plants destroyed, while the animals lose their condition. Succulent pastures, regularly top-dressed produce contentment and the beasts fatten rapidly. Don't neglect your top-dressing. It pays in every way.

This mixture of Wimmera Ryegrass and Subterranean Clover may be sown on a well-prepared seed bed in the **Autumn or early Winter**, or in cases where late rains are assured, in the early Spring, although, generally speaking, Autumn or early Winter seeding is much safer, sowing at the rate of from **10 to 12 lbs. of Wimmera Ryegrass and 2 lbs. of Subterranean Clover per acre**. Under grazing conditions it is extremely difficult to maintain a proper balance between Subterranean Clover and Wimmera Ryegrass. Each plant demands a separate method of grazing.

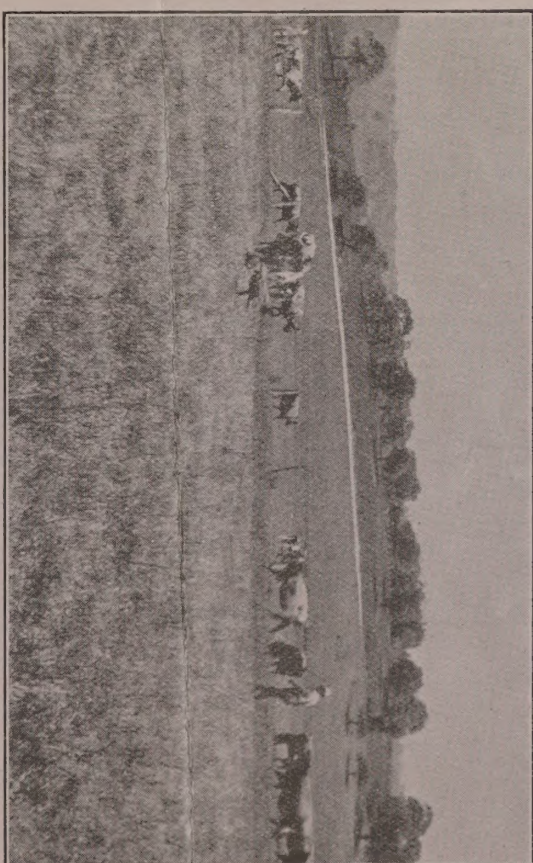
Subterranean Clover in its young form is somewhat unpalatable, while at the same stage Wimmera Ryegrass is extremely palatable. Thus, in Winter, the stock are liable to severely punish the Ryegrass, to the advantage of the Clover, and in addition, Subterranean Clover, owing to its extremely prolific growth tends to choke it out. This difficulty is accentuated when at seeding time Subterranean Clover protects its seed by burying it, while the Wimmera Ryegrass seed is readily grazed by all types of stock. Thus, as the seasons go on and the pasture re-establishes itself each year by re-seeding, there is a gradual increase in Clover and decrease in Rye Grass.

It would therefore appear to be better policy to sow Wimmera Ryegrass and Subterranean Clover in separate paddocks, and, indeed, under such conditions it can be grazed to the best advantage, and the Ryegrass allowed to seed heavily by removing the stock for a few weeks in the late Spring. Ryegrass is not a good plant to produce dry Summer feed and for this purpose the **Subterranean Clover** is much to be preferred.

Although in many instances it may be preferable to keep Subterranean Clover and Wimmera Ryegrass in separate paddocks, yet there are **considerable areas where the two may be advantageously combined** to give a good mixed pasture and under such conditions, the proper balance between the two plants may be kept in several ways:—

- (1) **By light stocking**, especially when the Wimmera Ryegrass is seedling, and followed by Autumn harrowing.
- (2) **Under heavy stocking** conditions, re-seeding with Wimmera Ryegrass every few years, at the Autumn harrowing, to increase the grass content if necessary.
- (3) **By judicious manuring**, with phosphates and nitrogen, and by careful control of grazing, it is possible to maintain both plants in their correct proportion.

Wimmera Rye responds well to Autumn and early Spring dressings of nitrogen, provided the phosphate content of the soil is high. **Carefully controlled grazing is essential to prevent** the Wimmera Ryegrass getting too high in the late Autumn, and thus smothering the young Clover plants. If the pasture is kept grazed and not allowed to exceed from 3 to 4 inches high, one may keep the balance between Clover and Ryegrass.



Stock fattening in a top-dressed mixed pasture.

To keep the pasture in the best condition, **top dressing is essential, and**, generally speaking, **1½ cwt. of Superphosphate per acre** applied immediately after the Autumn harrowing and followed by an application of about 1 cwt. of **Sulphate of Ammonia per acre** about the middle or end of May will give the best results. Under certain conditions, a further top dressing of Sulphate of Ammonia about the end of July would prove helpful in producing early Spring feed and maintaining the Wimmera Ryegrass—Subterranean Clover balance.

Wimmera Ryegrass and Subterranean Clover have now definitely established the value of their association for Winter and Spring pasture for the following reasons:—

- (1) **Both are annuals** and will withstand dry Summer conditions and re-establish themselves by profuse re-seeding, if managed in the correct way.
- (2) **They give a good balanced ration** to stock when fed in conjunction with each other.
- (3) **Wimmera Ryegrass will supply feed in Winter** when Subterranean Clover is not at its best, and is rather unpalatable.
- (4) **The Wimmera Ryegrass will produce feed** when the clover is attacked by the ravages of insect pests such as red spider and lucerne flea.
- (5) Both will grow profusely in areas with an annual rainfall as low as 15 inches, providing, of course, the soil fertility is sufficiently high.
- (6) **They respond splendidly to balanced manuring** with phosphates and nitrogen to give Winter feed.
- (7) The Wimmera Ryegrass materially helps to counteract the "clover taint" in butter.

F. H. BRUNNING PTY. LTD., BOX 857, MELBOURNE.

GRASSES, CLOVERS, AND ALL FODDER SEEDS.

Top Dressing for Winter Growth

Grasses as a group of plants differ from Clovers in being unable to fix nitrogen from the atmosphere. Consequently, **grasses are unable to thrive in soils which are low in available nitrogen.** These facts explain the slow spread of good grasses when nitrogen is deficient and the rapid spread of clovers when phosphates only are applied to a soil.

There is ample nitrogen present in most Victorian soils during the Spring and Summer for the requirements of even the best grasses. However, the supply is low during the cold months from May till September, and the high producing or "high fertility" grasses are nitrogen starved, become stunted and shrivelled, and finally give way to the more hardy but less productive types.

To establish and maintain a pasture containing "High Fertility" grasses, it is essential **firstly to feed** that pasture **with phosphate** the whole year round, and **secondly with nitrogen** during the Winter months when the natural soil nitrogen is at its lowest ebb.

The former is rendered easy, since Superphosphate is a relatively insoluble fertiliser, and an application at the rate of 2-3 cwt. per acre once a year, preferably in the Autumn, will maintain a continuous supply of available phosphate for at least twelve months. **Nitrogen** in the form of Sulphate of Ammonia, however, **is very soluble** and immediately available. Consequently, **it should not be applied till required** by the plant.

The principal pasture grasses in common use which demand heavy nitrogen supplies and will repay the expense of annual dressings of sulphate of ammonia are as follows:—

Wimmera Rye Grass.

English or Perennial Rye Grass.

Italian Rye Grass.

Phalaris tuberosa.

Cocksfoot.

Prairie Grass.

Pasture mixtures containing these grasses should be seeded with superphosphate and at least 1 cwt. sulphate of ammonia per acre in the Autumn. A further dressing of 1 cwt. sulphate of ammonia per acre alone during the latter half of July will firmly establish these high fertility grasses and keep up a healthy vigorous growth till the advent of warmer weather, and ample supplies of natural soil nitrogen in October and November. Many pastures are ruined in the first few months of establishment by an invasion of weeds, but if vigorous grass growth is maintained during the Winter with a good supply of nitrogen, this danger will be largely eliminated.

Nitrogen in the shape of Sulphate of Ammonia is **further valuable in preventing** the clovers from becoming dominant in pastures. Much trouble is caused each year in Victoria by excessive clover diet, causing bloat and kidney disease in stock and "clover taint" in milk.

By the annual use of nitrogen, in addition to phosphate as explained above, **a correct balance** between grass and clover **will be maintained.** If, however, a pasture has become clover dominant, the quickest way to increase the grass content is to re-seed with grass, harrow and use nitrogen. The pasture should receive a drastic Autumn harrowing, followed by a fairly heavy re-seeding with good grasses, such as Wimmera Ryegrass for dry areas, or Perennial Ryegrass and Cocksfoot above 25in.-30in. rainfall. This re-seeding should be followed by a further drastic harrowing and an application of 1-2 cwt. per acre Sulphate of Ammonia in April and a further dressing in July, as explained earlier. **In extreme cases** the use of Superphosphate should be discontinued for a year or so.

This information is based on recent experimental work carried out throughout Victoria, and should help Victorian farmers to obtain higher production and more profit from their pastures.

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